The Cart and the Horse: What NAEP tells us about Curricula

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Catalogue Description
NAEP 2016 provides a final cycle of assessment protocols that were first introduced in 1997. This is our organization’s opportunity to verify changes in the factors from home, school, and community as revealed by path analyses occurring over the almost twenty year assessment cycle. In NAEP 1997 student motivation and teacher enthusiasm were significant factors. Regions of the country presented distinct profiles, with home related factors particularly predominant in analyses. Museums provided important educational experience.

The dynamics shifted in NAEP 2008, with achievement reflecting growing interest in the benefits of critical inquiry. The importance of the specialist in art education was verified through secondary analysis.

In NAEP 2016 we expect: Art material use in the studio, historical study, and critical reflection will continue to influence art achievement; the decline in museum visits to continue, due to continued lack of funding and policy support for field trips; and to see that art specialists have embraced curriculum tasks, keeping achievement stable despite continuing change in the 8th grade population similar to (Brewer, Xu, & Diket, 2017).
Descriptive, inferential statistics and structural equation modeling analysis will be conducted with the NAEP 2016 visual arts data to test the “Aspirational Model” generated from 2008 data. Findings are expected to show that the current visual art focus on critical analysis has the capability to address social concepts that are conceptually complex, sophisticated, and “Aspirational” (authors) in nature.

We argue that far from simply holding steady, art specialists have been moving in the right direction and their students are poised for an achievement advances in 2016. Authors anticipate the release of the next published report to Congress on NAEP by mid-year 2017. We are following developments, particularly those pointing to depth of expertise in arts education delivery.
The full-time art specialist was the only teacher type in 2008 that produced significantly higher student achievement scores.

PK-20 visual arts educators can operationalize the *aspiration* learning approach where visual arts curriculum, instruction, and assessment are first guided by aggregating arts knowledge and employing technical knowledge and skills. This approach leads to determining aesthetic properties in artworks, to interpreting their meanings, and to perhaps significantly increasing meaning in their own artworks.

Rather than being disappointed with no significant overall learning gain specifically for the M/C test block from 1997 to 2008, no decline was a positive result. *Secondary findings indicate that art educators in schools are even more relevant, productive, and amazingly resilient in maintaining a consistent level of student art learning.*

In this almost renewed “School Art” period where core standards are common across disciplines and subjects, where you don’t really need to know much about art to teach; it meaning anyone could teach it, and with the national decline of art education teacher preparation programs, our findings that only full-time certified art teacher make a significant difference in student art achievement is even more important.

Is this the type of finding that an organization like NAEA would want to broadcast, use as news???
Teaching from Home
- Achievement Message
- Operate in Competition
- Respect for Knowledge
- Responsibility to Self Educate
- Choice and Perceived Control

World Events
- Culture
- Opportunity to Use Potential

Influence of Disciplines
- Development of Creative Products

Influence of Education
- Teachers’ Expertise
- Curriculum
- School
- Complex & Challenging Cognitive Activity
- Interdisciplinary Opportunities
- Active Learning

Influence of Community
- Media
- Peers

Black Box or Chance
- Unexplained Processes

Affective

Art Achievement
- Conative
  - Identity
- Cognitive
  - Formal Understanding

Ecosystem of Art Model (at 8th Grade)
(Adapted from Hollingsworth, 2003, Fig. 5.2, p. 117)
Laura Chapman
In the decade ahead, it seems likely that the National Assessment of Educational Progress, though infrequent in the arts, will remain as the most enduring example of a process for setting national standards and creating assessments (3/4/16).
Thank you for attending
A look ahead at the 2016 NAEP

An estimated sample of 8000 students in eighth grade are being testing in music or visual arts.

NAEP 2016 again asks students to observe, describe, analyze and evaluate existing exemplars.

Visual arts test administration takes approximately 120 minutes, including transition and directions.
A look ahead at the 2016 NAEP

Students will also complete questionnaires about educational experiences in and outside of school.

Separately, the school principal completes a school-based questionnaire.

Together, the questionnaires provide a context for achievement data and establishes factors “that may be related to student learning”
A look ahead at the 2016 NAEP
What to expect.

If this is a longitudinal study, we can expect to see evidence of effective art teaching embedded in the data.

Sophisticated statistical techniques will allow our team to follow and hopefully affirm the statistical relationships that appear in the 2008 question sets.

The influence of home is likely to remain evident, as are differences in opportunities to study visual art in schools; these are known factors in arts achievement.

As a field, art educators must readdress what art learning looks like in NAEP.
A look ahead at the 2016 NAEP

What to expect.

The worldview goals expressed in the NAEP Arts frame, the longitudinal restraints of the problem design for 2016 may not reveal data about the change in emphasis from methodological proficiency to ideological understanding.

In addition, NAEP will not likely capture the direct import of media arts standards, released in 2014 with the visual arts standards.
A look ahead at the 2016 NAEP

What to expect.
Much can be learned in this cycle about the rate of change, the impact of curricular incentives and practices in art rooms, and the presence of knowledgeable teachers in schools.

FRS: We can also expect a survey of the field practices to follow NAEP. Surveying teachers directly, and their practices, gives us a background against which to measure what is contributing or hindering students’ achievement in visual art.
NAEP Data Explorer (NDE) to more closely look at 192 variables. [http://nces.ed.gov/nationsreportcard/](http://nces.ed.gov/nationsreportcard/)

On the 2008 National Assessment of Educational Progress (NAEP) Arts Assessment that was administered to a nationally representative sample of 2004 eighth graders, student scores on a 300 point scale:

**Were significantly higher** only for those who received art instruction from full time art specialists and;

**Not** from a part time art specialists, nor artists-in-residence (*teaching artists?*); nor classroom teachers (*primary*); nor volunteers, nor other faculty (*PE*).
Table 1

<table>
<thead>
<tr>
<th></th>
<th>National</th>
<th>National Public</th>
<th>National Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>152 (1.6)</td>
<td>151 (1.6)</td>
<td>160 (8.3)</td>
</tr>
<tr>
<td>No</td>
<td>142 (3.0)</td>
<td>140 (3.0)</td>
<td>155 (8.9)</td>
</tr>
<tr>
<td>Difference (Yes vs. No)</td>
<td>$p = .01^{**}$</td>
<td>$p = 0.004^{**}$</td>
<td>$p = .68$</td>
</tr>
</tbody>
</table>

Note. *** $p < .001$; ** $p < .01$; * $p < .05$

The table indicates that the effectiveness of an art education is reduced when not taught by a full-time specialist faculty member. We theorize that full-time teachers have more impact on visual arts presence in schools.

One very important arts education policy position comes from our current Mother/Child Block restricted data analysis where we began unearthing existing or recognizing new models of art learning and discovering new paths to teaching methodologies given the relationships between students’ *art knowledge, technical knowledge, aesthetic properties, and Meaning*. Xu
Hypothesized model

Two structural models were conducted with the hierarchical representation from art knowledge to technical to aesthetic properties to meaning and with or without the path from art knowledge to meaning.

The hypothesized model is displayed in the path diagram.

- Represents constructs (latent variables)
- Represents measured items/questions (variables)
- Line connecting variables implies a hypothesize direct effect
- Absence of a line connecting variables implies lack of a hypothesized direct effect.
Implications/Applications

Visual Art Curriculum and Assessment
So does the *aspiration* learning approach where technical knowledge opens the path to advanced cognition have any applications to what and how you teach and assessment.

Only with the *aggregation* and balance of art knowledge and technical knowledge do students have the potential to grasp aesthetic qualities and possible meanings in and about all works. This may be best found in specific art education courses and degree programs, that produce art specialists.
In the past few decades there has been a rise in the use of a variety of qualitative methods. “This is particularly true in the field of art education where at present time the use of qualitative methods for conducting research far exceeds the use of quantitative methods or mixed methods for inquiry.”

“Research using quantitative and mixed methods research designs, may generate important findings useful to all art teachers in their instructional settings and be effective in communicating to parents and educational decision-makers.”

“Thus an initial objective of the Mixed Methods Working Group, in collaboration with the Research Commission, would be to implement workshops and resources to support and develop knowledge for interested members of the Art Education community about contemporary quantitative methods and how they can be used in tandem with qualitative methods. The Mixed Methods Working Group will also identify parameters, criteria, methodologies, and research design models that seem most promising for further inquiry into art education teaching and learning practices.”
ASPIRATIONAL MODEL

Released Questions

How 8th Grade Students Entered the Mother/Child Responding Block

Measuring ability of student to place a work of art in historical and cultural context.

Art Knowledge

Technical

Aesthetics

Meaning Making

13 Questions

NAEP Visual Arts 2008

1. Analyze subject of five mother/child portraits of different genres.

2. Identify 20th century work

3a. Style that contributes to developing 20th century cubism

3b. Identify the style of art as surrealism

5. Continued focus on realism by study of details

6. Explain where artist used light & shadow to create realism

7. Explain how artist used light to create lack of realism

13th Questions

NAEP Visual Arts 2008
Late Modernist Art in Common Core Curriculum

Art in the Core Curriculum

ENGINEERING
SIMILE
ANALOGY
METAPHOR

TECHNOLOGY
MAKING IN CONTEXT
WRITING ABOUT

AESTHETIC PROPERTIES
Design
Semiotics

SCIENCE
STRUCTURE & PRINCIPLES
EPISTEMOLOGY

THINKING OPERATIONS

MATHEMATICS

BIG "C" = Creative Synthesis

© M. Read Diket, 2012

KEYED TO STEM/STEAM/ SSTEMM AS PARAMETERS
Teacher Education

5.3 More post-graduate places need to exist for professional degrees for practicing artists (across music and all the art forms) and teachers (at all levels) to enhance their qualifications. (Bamford 2008, p. 10)

Professional artists can be recruited as unqualified teachers, hired on a temporary basis, dependent on permission from the Ministry of Education. In the cases where qualified teachers with specialist education and training in arts subjects are not available, professional artists with no background in arts education may be recruited. (Arnason, G. J., Hardardottir, M., & Eurydice, 2008). (Make more available)
These findings have significant implication for curriculum designers, principals, policy makers in curriculum design in visual arts and general education.

Findings from the Mother/Child block lead the researchers to advise visual arts (all) educators to consider using an aspiration learning approach where visual arts curriculum, instruction, and assessment are guided by the aggregation of arts knowledge employing technical knowledge and skills, that lead to determining aesthetic properties, and interpretations and meaning making.
Implications/Applications

Teacher education, preparation, certification
Are there any implications from this research about teacher education programs and policy that apply in the US and Iceland?

Recommendation: Make more qualified specialists available: Train certified art educators to best enhance student art achievement and art learning.

Shulman’s (1987), Pedagogical Content Knowledge (PCK). When the teacher interprets the subject matter, finding different ways to represent it, make it accessible and interesting to learners.

Art education courses and programs may represent the zone of most authentic, direct, and applicable learning.
PATH MODEL FOR READING
Ellis Island Problem Set 2005

13 Questions—Ellis Island Problem Set, 2005

1. MC Easy Passage is about — struggles
2. CR Easy When saw statue—feelings
3. MC Easy Most worry about med exams
4. MC Easy Distilled trip—condition
5. CR Medium They felt like cattle—why?
6. CR Hard Could ask one question
7. MC Easy “Contend with...guards”—obstacles
8. CR Medium “Land of free” not so—why?
9. MC Easy Called “Doorway to America”
10. CR Medium If you lived in '852
11. CR Easy Author uses immigrants actual words—why?
12. MC Easy Immigrants reduced—take jobs
13. CR Easy Exam required—beside med

Ellis Island: Doorway to America
## Correlations among science items

<table>
<thead>
<tr>
<th></th>
<th>Form conclusion about behavior of an organism (R1)</th>
<th>Compare organism behavior using graphs-Part A (R1)</th>
<th>Compare organism behavior using graphs-Part B (R1)</th>
<th>Predict effect environmental change on organism</th>
<th>Identify what type of energy moves muscles</th>
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<td>.331**</td>
<td>.127**</td>
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<td></td>
<td>.126**</td>
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<tr>
<td>Compare organism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.128**</td>
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<td>.097**</td>
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<td>Part A (R1)</td>
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<td>.116**</td>
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<td>Part B (R1)</td>
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<td>Predict effect</td>
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<td>environmental change</td>
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<td>Identify what type of</td>
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<td>energy moves muscles</td>
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I

II

III

IV

**I**

**DATA TABLE**

<table>
<thead>
<tr>
<th>Number of Trials</th>
<th>Larva Depth (cm)</th>
<th>Larva Depth Time (s)</th>
<th>Pupa Depth (cm)</th>
<th>Pupa Depth Time (s)</th>
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<tbody>
<tr>
<td>5</td>
<td>22</td>
<td>90</td>
<td>38</td>
<td>120</td>
</tr>
</tbody>
</table>

**II**

Which statement(s) is(are) supported by these data? You may select more than one.

- The larva dives deeper than the pupa.
- The larva stays underwater longer than the pupa.
- The length of the larva affects the depth of its dive.
- The pupa dives deeper than the larva.
- The pupa stays underwater longer than the larva.
- The shape of the pupa helps it dive deeper than the larva.

Explain why you selected the statement(s) you did, using the data in the table.

**III**

**COMPLETE RESPONSE #2**

The pupa stays underwater longer than the larva. The larva dies by 40 seconds. The pupa also dives deeper than the larva by 10 centimeters.
In the most developed path, students stand to gain a semi concrete understanding of the "lab" problem from the short narrative text and graphic. However, some students do get only part of the essential visual information from the graphic of the lab setup or a partial understanding. Having less than essential or complete understanding of the problem means that subsequent answers are incorrect, incomplete or partial. If all information, verbal and visual is grasped, then student may sustain complete responses throughout the problem.

If a student grasps the initial laboratory problem, but misunderstands or misreads the data table, then the problem cannot resolve other than as partial, as seen in the correlation.

Some students might not answer the first query about the “lab” problem. However, they get a second short at entering the problem from the Data Table graphic (II). Therefore, to the extent that respondents grasp the data presentation, they follow through the problem with partial or sufficient responses. If a respondent goes back and looks again at the lab set up, it is possible to completely understand the problem.

If the student suddenly grasps the problem at the hypothesis stage (III), then some backward examination of the problem has to occur, otherwise the correlation for level of understanding will remain flat. This might be like scanning image and table for information the respondent deems important to continue in the problem.

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Pulling From:


Mother and Child Portraits for NAEP 1997/08 - AG


Nigerian. Figure of Woman and Child. Courtesy of National Museum of African Art, Washington, D.C.
Mother and Child Portraits for NAEP 1997/08 - AG


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